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# Navy Comptroller

Volume XIV

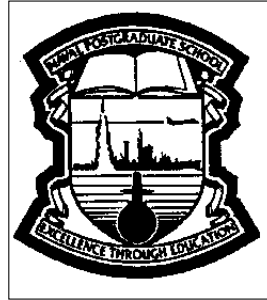


Issue No. III—FY 2002

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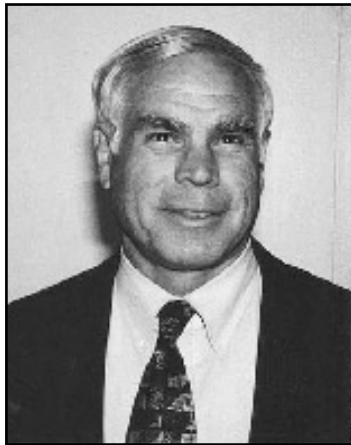
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## Naval Postgraduate School Financial Management Curriculum



The following are theses abstracts written by recent graduates of the Financial Management Curriculum at the Naval Postgraduate School in Monterey, CA.

If you are interested in a copy of a thesis contact:



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### Thesis Article Correction

Navy Comptroller Volume XIV, Issue II-FY 02

The thesis written by Major J. E. Leighty, USMC entitled "Criteria for Evaluating United States Marine Corps Installation Strategic Management" contained two editorial errors. The name "Baldrige" should have been spelled "Baldrige" and the reference page was omitted from the article. A corrected version of the thesis is available online at Internet address: <http://www.namc.navy.mil/pubs.htm>.

Apologies are extended to the thesis author. §

## ***Analysis Of The Antideficiency Act (ADA) In The Department Of The Navy (DON)***

**By Eric D. Cheney, Lieutenant Commander, United States Navy  
B.S. United States Naval Academy, 1989  
M.S., Naval Postgraduate School, 2002  
Advisor: Joseph San Miguel,; Associate Advisor: Don Summers**

**\*Complete thesis begins on page 18.**

The Department of the Navy (DON) budget expanded from \$96.1 billion in 2001 to an expected \$108.3 billion in 2003. It is important that in pursuit of scarce dollars, the people who provide us the money trust that we will be good stewards of the money. Negative public and Congressional perceptions jeopardize Navy funding. As responsible stewards of taxpayer dollars, we must strive to obtain the optimum use of our available resources, within the limits of the law. Congress implemented a series of laws designed to prevent government officials from spending the taxpayer's money in a manner that was not intended. Collectively, these laws are referred to as the *Antideficiency Act (ADA)*. Execution of the budget contrary to the *ADA* is a violation of federal law. Each violation damages the public's perception that the Navy is a good steward of the taxpayer's dollar, which could influence the amount and the degree of Congressional control and oversight of future funding. Hence, it is imperative that the Navy provide proper training, implements effective internal controls, and raises the level of awareness of *ADA* violations in an effort to reduce the number of future violations. This thesis analyzed data from 62 *ADA* formal investigations for the period of 1987 to 1997. The data was analyzed to detect: (1) trends in the number of investigations over time, (2) the most frequent legal statutes violated, (3) the causal factors that led to violations, (4) trends in the investigative process, and (5) the equity and effectiveness of the disciplinary action taken with each violation. Based on the conclusions drawn from the data analysis, recommendations on improving training, internal controls, and methods to raise awareness were formulated that should reduce the major causal factors of *ADA* violations. §

## ***Flying Hour Cost Estimating At Commander, Naval Air Forces U.S. Pacific Fleet (COMNAVAIRPAC)***

**By By Paul J. Bourgeois, Lieutenant Commander, Supply Corps, United States Navy  
B.S., Saint Joseph's University, 1989  
M.S., Naval Postgraduate School, 2002  
Advisor: Lawrence R. Jones; Associate Advisor: LTCOL Gregory K. Mislick**

**\*Complete thesis begins on page 34.**

This thesis examined the Tactical Air (TACAIR) portion of the Commander, Naval Air Forces U. S. Pacific Fleet (COMNAVAIRPAC) historical flight hour data to determine the correlation between dollars budgeted for the Flying Hour Program (FHP) and the hours actually flown under the program. An analysis of the actual FHP execution of the budget for Fiscal Years (FYs) 1999, 2000, and 2001 was undertaken for four Continental United States (CONUS) based Carrier Air Wings (CVWs).

The COMNAVAIRPAC Comptroller and FHP Manager have used FHs as a predictor of Fuel, AVDLR, and Other Maintenance costs and have sought a more effective cost prediction model for air wings they fund. The intention has been to find a cost estimation method that could be applied to the Inter-Deployment Training Cycle (IDTC) and Fuel, AVDLRs, and Other Maintenance costs to better analyze and report projected versus actual flight hour performance.

If such a model existed, COMNAVAIRPAC would have a more powerful tool for accounting and budget analysis, budget projection and execution, as well as, an ability to improve resource justification. This, in turn, would improve the formulation of the Program Objectives Memorandum (POM) and budget, the execution of the budget and other resource reporting, including reconciliation to the OP-20 report from the Pentagon. Such a model could also be used throughout the Pacific fleet and elsewhere in the Navy. §

## ***Cost Analysis Of Maintenance Programs For Pre-positioned War Reserve Material Stock (PWRMS)***

**By Phillip G. Cyr**  
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**M.S., Naval Postgraduate School, 2002**  
**Co-Advisors: Shu S. Liao; John E. Mutty**

This study analyzed the existing program for the maintenance of CESE (Civil Engineer Support Equipment) and CEEI (Civil Engineer End Items) that are stored as part of the Pre-positioned War Reserve Material Stock (PWRMS) and attempted to predict the required funding levels of Operations and Maintenance, Navy (OM,N) funding for that maintenance.

The objective was to provide DoD, the Navy, and the Civil Engineer Corps a guideline and possible benchmark for maintenance costs required to maintain the CESE War Reserves in a C1 readiness condition.

This research was important since the Naval Facilities Engineering Command (Seabee Readiness and Logistics, SRL) and Code N44, CBC Port Hueneme CESE Management Branch, needed to determine the amount of funding required in order to adequately maintain CESE PWRMS in a Ready-For-Issue (RFI) condition. PWRMS was considered mission essential, but the Project Managers' ability to rapidly respond to a contingency and meet the scheduled mobilization dates are predicated on the ability to get the PWRMS out of storage, mobilized, and transported to the contingency. Therefore, this thesis had direct operational readiness implications.

The OM,N funding required to maintain CESE PWRMS in an RFI condition was estimated using assumptions for cost of materials, estimates for labor expenditures, and frequency of equipment use. Recommendations included modifications to the current program's objectives and improvements to issues noted in this study. Areas of further study were provided for improved budgetary decisions. §

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## ***Cost-Benefit Study Of Implementing Current And Future Technology For Enhanced Station-Keeping During Underway Replenishment Operations***

**By Marc K. Williams, Lieutenant, United States Navy**  
**B.S., The Ohio State University, 1996**  
**M.S., Naval Postgraduate School, 2002**  
**Co-Advisors: John E. Mutty; CDR Bill D. Hatch**

This thesis analyzed the feasibility of using new technology such as laser rangefinders to enhance ship station-keeping during Underway Replenishment (UNREP) Operations. The introduction of new technology is the single best method to reduce manpower requirements onboard Navy vessels. UNREP is the most manning intensive requirement for Commanders and Sailors to execute. This research explored new methods to communicate and determine approach and alongside ranges between ships at sea. Research was conducted on five classes of combatants using laser rangefinders. Laser rangefinders were found to be the only mature, suitable technology to replace the Phone and Distance Line Legacy System. An analysis of alternatives based upon cost estimates and observed benefits revealed that using lasers could provide enhanced situational awareness to ship Commanders, Officers of the Deck, and Conning Officers. The following advantages can be achieved by implementing laser rangefinder technology on combatant ships along with billboard range displays and reconfigured sound-powered phone lines on replenishment ships:

- cost effective simplification of UNREP evolutions
  - reduction of alongside time during UNREP evolutions
  - increased personnel and vessel safety
  - improved Sailor quality of life
- §

***Analysis Of The Financial Accounting Sites On The  
World Wide Web (WWW)***

**By Boris Lyobomirov Bachvarov-Bulgarian, Department of Defense  
B.S., University for National and World Economics, 1996  
M.S., Naval Postgraduate School, 2002  
Advisor: Doug Moses; Associate Advisor: Tony Kendal**

During the last several years, the Internet has rapidly evolved. There is a tremendous increase in the amount of information available on the Internet. A growing number of organizations are using the Internet to publish financial reports and provide other financial accounting and reporting information. One of the biggest challenges is to find information suitable for specific needs. The objective of this thesis was to analyze information available on the Internet and to determine its suitability for supporting instruction in financial analysis and reporting. This thesis examined more than 200 Internet sites. They were categorized and evaluated using the criteria of accuracy and reliability, accessibility/cost and currency. The evaluated sites were compiled into an Internet homepage. This thesis furnished the faculty and the students, as well as, other users of financial accounting data with a free gateway that they could access the best financial accounting, analysis, and reporting data available. §

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***An Analysis Of Improvisational Budgeting From  
Calendar Year 1990 To 1999***

**By Richard C. Buell, Lieutenant, Supply Corps, United States Navy  
B.S., University of Maryland, 1992  
M.S., Naval Postgraduate School, 2002  
Advisor: Jerry L. McCaffery; Associate Advisor: Don E. Summers**

Improvisational budgeting represents an interruption to the normal budgeting process, resulting in costly delays to the defense Planning, Programming, and Budgeting System (PPBS). A normal Congressional budget process was characterized by Congress' ability to follow established procedures, complete their budget in a timely manner, and fulfill their expected roles for applying incremental adjustments to the budget. The latent pro-spending bias and intrinsic political behavior within the budgetary process, in conjunction with a U.S. economy bitten by stagflation in the 1970's, was a recipe for the creation of enormous debt and political breakdowns in the 1980's. The result of these factors was a breakdown of the normal budgeting process, subsequently circumvented by improvisational budgeting. Ramifications include continuing resolution appropriations, appropriations passed before authorizations, delayed bills or even government shutdowns. These ramifications impact DoD's ability to issue accurate Budget Estimate Submissions during budget formulation, increasing the level of uncertainty in the PPBS process. This can negatively impact defense programs requiring accurate forecasting to remain executable. It is important to further explore the decade of the 1990's to ascertain whether harmony could be restored in a budgetary process defined by a surplus rather than the deficit spending-driven improvisational budgeting of the 1980's. §

## ***The Pearl Harbor Fleet Maintenance Pilot Program: Conversion From The Navy Working Capital Fund (NWCF) To Appropriated Funding***

**By John S. Turner, Captain, United States Marine Corps**

**B.S., United States Naval Academy, 1993**

**M.S., Naval Postgraduate School, 2002**

**Advisor: Lawrence R. Jones; Associate Advisor: Daniel E. Barber**

During fiscal year 1999, the Navy conducted the Pearl Harbor Fleet Maintenance Pilot program. This program involved converting the Pearl Harbor Naval Shipyard from a revolving fund activity to merge with the Naval Intermediate Maintenance Facility and consolidate under appropriated funding. This research related the complexities of change during the Pearl Harbor Pilot, specifically with regard to the two distinct funding methods used at the Depot and Intermediate Maintenance Facilities: (1) revolving funds (Navy Working Capital Fund (NWCF)) and (2) appropriated funds (mission funds), respectively. The primary research goal was to define the advantages and disadvantages of accounting for the consolidated operations at the Pearl Harbor Shipyard and Intermediate Maintenance Facility with appropriated funding. To provide an analysis of this topic, results of the Pearl Harbor Pilot performance metrics were studied and the two types of funding were compared and contrasted. Results of the pilot program were mixed and are still open to debate two years after the test conclusion. Implications for the Marine Corps Maintenance Depots were paralleled to the current dilemma facing the Navy on whether to continue the success of the pilot or to reorganize back to a revolving fund system. §

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## ***Regression Analysis As A Cost Estimation Model For Unexploded Ordnance Cleanup At Former Military Installations***

**By Ronald B. Ross, Lieutenant, United States Navy**

**B.S., University of New Mexico, 1996**

**M.S., Naval Postgraduate School, 2002**

**Advisor: John E. Mutty; Associate Advisor: Joseph G. San Miguel**

Throughout the 1990s, the Department of Defense (DoD) has undergone numerous changes in an effort to save money and to bring the military infrastructure in line with the National Security Strategy. One of the major ways of reducing military infrastructure has been through the Base Realignment and Closure (BRAC) program. Before an installation can be formally turned over to the local community, the military service owning the base has to certify that the land is environmentally safe for reuse. One of the greatest problems discovered on former weapons training installations was the numerous pieces of unexploded ordnance that were located either on the surface or just below the surface in soil that will be reworked for land development projects by local city developers. This thesis provided a comprehensive case study of the former Fort Ord installation as the Army goes through the process of cleaning up unexploded ordnance so that the property can be given to the City of Seaside, CA and other civilian entities. A mathematical model was developed to better estimate cleanup costs using historical cost data that could be used by the Defense Department prior to placing installations on any future closure lists. §

## ***Resource Impact On Single Scope Background Investigation - Periodic Reinvestigations***

**By Thomas J. Verry**  
**Lieutenant Commander, United States Navy**  
**B.A., Iowa State University, 1991**  
**M.S., Naval Postgraduate School, 2002**  
**Advisor: William J. Haga; Associate Advisor: Howard W. Timm,**

The resource impact of implementing selected changes to the Personnel Security Investigation (PSI) process was studied. The Phased Periodic Reinvestigation (Phased PR) and the Automated Continuing Evaluation System (ACES) initiatives were compared in terms of costs, schedule, and performance with the current PSI process. Estimated impact costs of the ACES process were determined using estimates from adjudicated cases and applying relevant investigative and adjudicative process costs to the ACES product. The study revealed that ACES offered potential significant improvements in the PSI performance process by identifying issue-relevant cases earlier than the current PSI process. ACES coupled with the Phased PR process could increase the number of issue-cases identified without additional resources. The result would be a PSI process that has a significant increase in performance without any additional system cost. §

## ***The Impact Of Increased Antiterrorism/Force Protection (AT/FP) Requirements On Ships Operations Funding***

**By Tim J. Anderson, Lieutenant, United States Navy**  
**B.S., University of Idaho, 1994**  
**M.S., Naval Postgraduate School, 2002**  
**Advisor: John E. Mutt; Co-Advisor: Shu S. Liao**

Since the terrorist attack on USS COLE (DDG 67) and more recently the attacks on New York City and the Pentagon, Antiterrorism/Force Protection (AT/FP) requirements have dramatically increased throughout the Department of Defense (DOD). As these requirements escalate in scope and number, so do the costs of meeting them. In the Navy, ships are bearing a portion of these costs out of their operations funding.

Type Commanders (TYCOMs) fund the operations of all ships and squadrons under their command. In order to have a firm grasp on how these new AT/FP requirements will affect them financially, they must be able to forecast the costs related to them and make appropriate adjustments to their existing ships operations funding model. Acquiring a better grasp on the fiscal impacts of these new requirements will allow TYCOMs to more effectively budget for them in the future. This thesis furnished a shipboard AT/FP cost estimation model to aid in forecasting costs associated with these activities. §

## ***Incentives For The Surface Navy In Support Of The U.S. Grand Strategy For The 21<sup>st</sup> Century***

**By Derick S. Armstrong-Lieutenant, United States Navy  
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M.S., Naval Postgraduate School, 2002**

**and**

**Patsy Fielden-Lieutenant, United States Navy  
B.S., Prairie View A&M, 1995  
M.S., Naval Postgraduate School, 2002**

**Co-Advisors: Raymond E Franck; John E. Mutty**

There is (or should be) a clear and logical track from National Strategy to naval missions to desirable behavior by naval officers. Furthermore there is (or should be) a coherent structure of incentives to encourage that behavior. Since the Age of Sail, the Surface Navy has recognized the importance of incentives. This thesis focused on lessons learned from the 19<sup>th</sup> Century and how those lessons apply today. It examined the U.S. National and Military Strategies for the late 20<sup>th</sup> and early 21<sup>st</sup> Century, and how the incentive structure for the surface officer community does (or does not) support those strategies. The major conclusion was that incentive structures for today's surface officer community generally supported the U.S. strategies. §

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## ***The Relevance Of Retention Behavior In The Development Of Accession Strategy***

**By Jose Gonzales, Lieutenant, United States Navy  
B.S., Texas Tech University, 1991**

**M.S., Naval Postgraduate School, 2002**

**Co-Advisors: William R. Gates; Shu Liao**

This thesis developed officer retention ratios that are useful in understanding the retention behavioral trends of accession sources over time. Data files from the Defense Manpower Data Center on Supply Corps officer accessions in 1985 to 1995 were used in the analysis. The study focused on officers that resigned voluntarily after completion of the minimum service requirement and before reaching the ninth year of active service. The findings revealed that each accession source had unique accession to retention ratios. A comparison of the retention ratios to accession trends revealed that retention rates can be improved through an understanding of retention behavior. Recommendations were made for the Navy to develop cost-effectiveness metrics that are based on retention behavior. Integration of these metrics into planning and analysis models will facilitate the cost evaluation of proposed accession policies. §



***The Economics Of The Drug War: Effective Federal Policy  
Or Missed Opportunity?***

**By Steven M. Carroll**

**Captain, United States Army**

**B.S. Business, Cal Poly, San Luis Obispo, 1992**

**M.S., Naval Postgraduate School, 2002**

**and**

**Marvin H. McGuire**

**Lieutenant Commander (Select), United States Navy**

**B.S. Political Science, United States Naval Academy, 1992**

**M.S., Naval Postgraduate School, 2002**

**Advisor: David R. Henderson; Associate Advisor Douglas Moses**

We calculated the value of two distinct economic inefficiencies that resulted from the prohibition of drugs. We defined and illustrated these inefficiencies as the two direct components of the deadweight loss created by prohibition. The first component is under-consumption and the second component, unique to our analysis, is the payment for risk. Using the 1999 illegal quantities and prices, the derived legal prices, and the estimated demand elasticities for four illegal drugs, we calculated the estimated quantity demanded for these drugs in legal markets. We then used the results of these calculations and estimated the total deadweight loss of the drug war in 1999 to be over \$90 billion—\$65 billion in payment for risk and \$24 billion in under-consumption. We then focused our analysis on the indirect components of the deadweight loss, e.g., costs to reduce supply, cost of incarceration, and productivity losses, and similar components. Our conservative estimate for indirect deadweight loss for 1999 was \$96.1 billion. In summary, the authors estimated that of the total deadweight loss, America could gain \$6.7 billion annually in taxes from legal drug sales, save over \$34 billion annually in drug war costs, and recoup the remainder via reductions in prohibition-related phenomena. §

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